Debrief of Institutional Investor Global Summit

Key themes

1. Role of **private sector** in infrastructure (engagement with governments as well as directly to users/customers; also ensuring appropriate regulatory frameworks)
2. Future directions in **infrastructure markets** (impact of rising rates and populism; technology, sustainable development and climate change)
3. Changing **investor base** (niche infrastructure investors to expanding private equity; roles of General Partners vs Limited Partners; taking direct vs indirect exposure)
4. Changing composition of **infrastructure characteristics** (renewable energy, data)
5. **Project pipeline development** (greenfield vs brownfield, asset recycling, project preparation, new ways to catalyse and mobilize private capital in new projects)

Topics

Infrastructure gap and implications for governments and markets

Role of private sector capital and expertise as stewards/custodians of assets

Moving away from privatization toward partnerships, support P3 models

Allocation of capital decisions, and increasing infrastructure weight in portfolios

Geopolitical and market risk; regulatory risk on returns (if can't measure risk can't manage)

Need for government support packages and **catalytic mechanisms** to bridge risk gap

- Risk sharing mechanisms, long term concessions and regulatory models
- Encouraging greenfield rather than brownfield projects, but hard work on project prep

Protectionism and foreign direct investment, open borders for capital and supply chain

Disruptors – blockchain, big data, smart technology and AI, future of cities
Drivers – demographics, decarbonization, and digital
Enablers – partnerships, engagement, data and metrics, policy and regulatory support

Human side of infrastructure often overlooked, from diversity to talent, to end-users

Headwinds for **mobilizing** more private capital deployment

- **Deal flow, project pipelines** (actual new projects, rather than over traded old)
- **Regulatory** (revenue, returns, procurement, permits)
- **Capacity** talent and skill in structuring projects, construction and delivery
- **Financing** matching partners to right projects and assets, instruments, vehicles
- **Partnership** mechanism with governments (like development banks, P3s, CIB)
- **Public** support for private role in infrastructure, confidence key
- **Data** and performance metrics, indices across asset classes and markets

General Observations (Canada angles)

Recognition frequently of Canada and Canadian investors being longstanding, experienced infrastructure investors, with large pools of capital

Pension funds as well as targeted infrastructure funds like Brookfield, and some of our more niche funds, add an uplift to credibility in Canada

Canada also still seen as solid market, stable and with a sound PPP model [redacted]

Not a lot of deal flow in Canada given the big roles Governments play in Canada, but many follow closely the PPP pipeline as well as big commercial transactions

[redacted]

Most investors now get that Canada just extending the PPP model into a new revenue based model with some other advisory and market development and data roles.

[redacted]

Investor interest to ensure Canada continues to showcase the benefits and roles of private sector in public infrastructure (see themes below)

Infra investors and pension funds, including in Canada, ***need to be more active in shaping the public debate for private sector role, benefits, speaking directly to the public*** (note to do independence issues many of our pension funds have resisted this, though global leaders in the space encouraging the funds to be more active in engagement)

CDPQ, PSP and CPPIB representatives were very active on various panels

On a Big Data Panel, ***Sidewalk Labs COO/co founder Anand Babu was on panel*** – drew out the innovative project going on at Toronto Waterfront. Seemed to give impression this was moving forward. Positive in the reflection on opportunity in Canada and doing something really innovative around cities and google/alphabet. Did not provide much insight on Quayside.

Note that there was reference to data storage and privacy and range of other policy issues to resolve. Talk that there will emerge data governance regimes for where stored geographically, but the massive data to be collected and used, the future will be in keeping data on devices as source with minimum uploading (thus avoiding the data centre issue and location).

Still a debate about whether **data infrastructure** should be treated like normal infrastructure asset classes, and how to separate out data centres and fibre, to other hard aspects like hard assets (towers, etc).

General Notes

Common narrative on infrastructure gap, and quoting McKinsey and other figures on how much private and public sectors need to invest to close, over time and annual

Countries all facing different types of gaps, but very common challenges

Projects needs to be managed and structured properly

Challenge of geopolitical and markets risk affecting projects

Government planning and robust decision making uncertain in many jurisdictions (political interference, pet projects, shifting priorities)

Financial sector focused on creating value, whether investing or divesting

High competition in many markets for acquisition of infrastructures

Various investors and lenders looking for bespoke risk, tranches in Core, Core +, Core ++ assets

Some funds looking for early, greenfield (but still few, shallow market), and pension funds just starting to turn. Canadian and Australian funds seen as groundbreakers, continue to lead.

Most other funds looking for others to place money, mobilize capital for them given transaction costs and expertise needed on big, slow moving infrastructure projects

Other funds focused on competing for brownfield assets when come on market, or when governments encouraged to sell or partner (e.g., Aussie asset recycling, UK various projects; US seen as next frontier)

Some funds can reap operational efficiencies out of many poorly managed assets around world, so there is a big market for refurbishment and better management – hence focus on asset recycling

Some assets just get traded and re-traded to feed various funds and changes in valuations in market

Green, social and data infrastructure assets being looped into asset categories, but many projects non-traditional, need particular costing and delivery models (all with different investment characteristics)

Noted challenge for private sector in engaging in social infrastructure given challenging optics and need to apply efficient business models

Case Study – Macquarie Infrastructure Real Assets (MIRA) largest global fund

Regional vs global or country strategy

Recognize interest in real assets is high

Competition is increasing as well as ability to compare managers

- More choice for investors
- More product offerings
- Deepening of many asset class markets

Market entry, either too early or too late can be killer (both in geography and asset type)

Strategy for allocation of capital should be executed carefully, need to watch for fund drift and deployment of capital too soon, chasing deals without expertise in place to support

Renewable energy a big part of new infrastructure world, blending former public and private markets

Macquarie bought UK Green Investment Bank through privatization

- Got talent built up in UK market around onshore and offshore wind
- Bought portfolio of assets
- Took out a market competitor
- Further lease on life for the support play of wind assets

Made clear the GIB skirted close to private markets, and was focused on stimulating investment in the new market, as well as support for carbon adjustment

There is a lot of private investment now chasing many renewables, where private markets need to work now (solar, wind) – no need for governments to subsidize renewable power, although continued phase out of fossil fuel subsidies would help

Energy storage and energy efficiency are key frontiers now

May be role in supporting new, innovative technology pilots but not as infrastructure plays

Issues with Green Finance

A lot of feel good investment draw

Not a lot of actual green deployment

Many green bonds are gimmicks and few investment behind that meet criteria

Need scrutiny of markets and avoid excess public subsidies, many not needed, disruptive

capital being deployed potentially in bad projects that waste capital, confuse private incentives in markets. Private players will figure out best projects and pressure to decarbonise and all to shift to cleaner energy will drive the market on its own in most cases

Electricity markets becoming tricky given changing grid, cost of access, battery and other storage technologies. Demand for electricity will go up, but how generated, stored and distributed still uncertain path forward (blockchain will also allow more distermediation)

Regulated return market is challenging, as rates are managed and investments depend on long term power purchase agreements

Concern over changes to regulated returns set by state owned regulators, that impact revenue and value

Separation of regulators and politics imperative

- Needs to be based on commercial decisions
- Fair return on capital
- Not just cramming down costs, as impacts quality and sustainability
- Need to get balance right
- Need to articulate more to the public on rates and role of private sector

A lot of bad ideas that should not be funded, need market discipline on best projects and most promising technologies

Renewables

A lot of effort trying to get deals done in US

Energy policy driven at state level

Depends on how much rely on fossil fuels by state

ESG driven in some areas

Need policy support more than funding

Long term agreements

But challenge for both regulators as well as private sector

Focus on whole of life asset, don't want stranded depending on future green or energy markets

Role of Private Sector more broadly

Need to communicate benefits of private sector involvement

Shift from focus on lobbying and advocacy of government, to public appeal

(Note this is an area many pension funds and others have not spent time, including in Canada, more support of PPP models, user pricing, efficient markets role)

Progress in past decade, now concern about rise of populism and not enough positive success stories

Private financing can help bring accountability as often hard to allocate accountability in public sector

UK is a market setter (published national infrastructure plan, set up National Infrastructure Commission to provide advice, and National Project Authority to deliver projects), and opposition party noise about re-swing in pendulum back to nationalization of assets

Future Opportunities

Governments should consider various ways to recycle assets and use proceeds for new greenfield, other priorities (Australian example)

Get revenue unlocked and better management of asset over lifetime, often partnership not full privatization (selling less than controlling stakes)

Need to make better cases for improving efficient operations of assets, as well as greater role for private sector as custodians of assets in public interest

US infra plan is up in the air, but there remains an openness to FDI, may be opportunities in future US market (as fiscal pressure exists, not enough government funding)

General/Macro Concerns in Infrastructure Markets

Interest rate rising and implications for domestic and global markets

Differentiation by country will create more FX and funding cost risks

Will reduce liquidity in some markets, as local funding too risky (inflation adjusted) and foreign funding brings exchange rate risk

Last 10 years has been a consistent trend in financing post Global Financial Crisis

Governments could borrow cheaply but many over extended, not sustainable to borrow, were too overleveraged

Rising rates could motivate governments to be more active, however the financial and pricing of transactions will become more complicated

Refinancing risk will become bigger issue for many private sector players (and changing cost of capital will also impact other through whole supply chain)

The asset classes will face an evaluation adjustment

Some real assets will increase in value with rising rates

Providing rates are rising because of economic fundamentals, rather than just inflation, should be orderly

Rates rarely move up in isolation on macro basis, but there could be differentiation affects across assets

Role of Equity and concerns about leverage build up

Poorly structured deals that have too much debt will be squeezed

Debt costs has been too cheap, and some of have over-levered to reduce costs instead of better balance over long term with more equity to stabilize

Interest rate cycles do affect costs of capital but they should also bring more discipline to markets and transactions

Investors looking for more and better data on performance of infrastructure assets have performed over time

Need to have better transparency and data (and private ownership of assets has been a recent phenomenon globally); not deep enough evidence

Infrastructure as an Asset Class theme

Private markets are focused on trying to shape the market

There is now more of a Private Equity trend in a space that was dominated by Infrastructure Investors

Need to focus on returns for various asset classes, as well as differentiation of relative returns within asset classes

Regulated return assets will get a lot of scrutiny – regimes that allow a reset mechanism and are credible will support valuations (energy plays)

Some that are also already inflation adjusted will be more stable (like toll roads)

Governments – like in G20 – are focused on policy work to support infrastructure as an asset class (more separately)

Benchmarks are now being developed to measure volatility and performance of infrastructure as an asset class

Definition of what is considered infrastructure continues to evolve

Infrastructure Investor Trends

There is now a wider mix of funds looking at the space

Pension funds (but few in greenfield)

Infrafunds (balance of green and brown)

Infra debt funds focused on leveraging assets at different risk profiles and characteristics

There is a dynamic in market around balancing long term cash flows and rising cost of debt

Investors tend to be grouped into two camps

- General Partner (that actually is responsible for investments)
- Limited Partners (that provide investment capital but removed from decisions)

Debate around pension funds becoming more active as GPs, in that they create their own destiny, develop and execute infrastructure projects

Many considerations around capacity, transactions cost, talent, etc

Shifting role of Funds

Canadian and Australian pension funds often cited as having scale and resources to participate more actively in deal flow – but this prowess has been more focused on global platform for acquired assets (CPPIB, OTPP, OMERS, BCMIC)

Some Canadian infrafunds like Brookfield (the competitor to Australia's Macquarie) spend more time and effort developing, shaping and reaping operational efficiencies from actually running and improving assets

Now Infrafunds facing more competition from pension funds for brownfield as well as aggressive private equity players, so they have become more innovative in acquiring assets and focusing on increasing value

Pension funds typically have very limited expertise and appetite to develop infrastructure

Some also face regulatory constraints on what and where they can invest (OECD is doing work on this as part of Long Term Investing in Infrastructure working group, that is related to its PPP work stream and supporting G20 Infrastructure work stream) Can share a separate deck on topic.

Case Study – CDPQ Infrastructure

Head of CDPQ infra in Paris spoke on panel about how they have created an infrastructure arm in Montreal to build capacity on development and delivery

They focused on the REM project but stuck to explaining the arrangement with the PQ government and how their pension fund works differently than others

Has economic mandate as well as needing to satisfy a broad range of insurance plan under the Quebec model

Panellist from Texas pension fund says so many funds in US 3K that not enough aggregation in scale to do what Canadian and Aussie funds do in terms of using scale and breadth to adapt to market and strategies employed to manage investments

Case study – Thames tidewater tunnel (Global projects Forum)

UK was in break of urban waste water directive – cost of upgrades were too big for Thames Water (the government organization). Spent 6 years looking at a technical solution, before devising tunnel solution. Cost of tunnel is 4.2 billion pounds, and raised private capital for 3.2 billion. Ran separate competitions for equity and for construction.

Provided government support package, which included contingent financial support in the event of certain extreme risk scenarios – charged market rate for this support.

Anticipated customer bill was $20-25/month, rather than the $80 expected at outset of project.

Project was successful because of good team in government, clear roles and responsibilities, market leading external advisors, good understanding of commercial objectives, and political support.

Data Infrastructure

Digital infrastructure are the utilities of tomorrow

Plenty of positioning and pricing in the space, between technology and real assets

Key issues will be around changes to mobility, energy and logistics when more data is available

Big Data – winners and losers

Data centres, networks and who should own and control which assets

Value in new, creative, and analysis not just size of Big Data sets

Need more capacity to support robotics & automation (automated vehicles)

High valuations in data infrastructure space reflect expected growth going forward as customers will need more capacity

Managing the data footprint will be a huge issue as every piece of electronics creates a perpetual piece of data and information – how and where stored, why and how used, and what is not necessary to be retained

Separate discussion – former Google analyst re data

Spoke about power of Google search data and how more effective and predictive is a actual observed behaviour vs surveys (flawed, people lie, mislead).

Access to search data on mass scale can provide feedback on real time events, customer feedback, public issues, general public sentiment, and specific community localization (searches for why is my water brown precursor to major issue – Flint Michigan example)

Global Projects Forum

Global Infrastructure Hub hosted an evening reception for government officials to share best practices and engage on P3 and new developments

Bilaterals:

Colombia

Russia

Turkey

Australia

Bosnia

Full day, see agenda of projects reviewed and discussed

Focus on Global Pipelines –

Global Infra Hub

European Commission and European Investment Bank

Similar Themes as Investor Forum

- No shortage of capital
- Mismatch of projects and capital

- Need new instruments
- Risk reduction and mitigation
- Return management to private sector

All about structuring and risk allocation, and pricing over long term

New assets have different risk profiles and chaarctersitics that change over time, unlike more traditional infra

Renewables and Broadband

Markets need to be rewarded for outset risk, not criticised post facto where in hindset if they managed risk get criticized. Negative influences

Many different types of risks

Sovereign

Demand revenue

Technology

Counterparty

Data and disruptors

Traditional construction, design and execution

If structured well, projects with private sector can reduce aggregate risk, not just reassign residual risk

New modern forms of PPPs

Governments also looking more at smaller projects, and bundling, particularly in social infrastructure

Still a ways to go in Infra becoming an asset class

- Immature
- Liquity issues globally
- Worry of stranded assets

Need more contract standardization

Data collection and measurement

Benchmarking performance

Better risk management

More project preparation facilities

Need not just more funding mechanisms but better dialogue with governments and regulators

Need to rethink approach to financing and investment

Look ta gaps on funding side – who pays, balance between tax supported and fees

Need to docus on whole industry dialogue

Industry should appeal more to emotional arguments as well as fact to governments and public

WEEK IN REVIEW

Mar 22, 2018

Buzzword from Berlin: 'Engagement'

And if you want a catchphrase to go with it, add 'customer service', as attendees at our Global Summit grappled with the heightened importance of end-users in an increasingly populist world.

Last week, we wrote an editorial titled "Regulation, regulation, regulation" – this week's could have easily been named "Engagement, engagement, engagement".

If you're looking for a buzzword that captures the first day of our Global Summit, taking place in Berlin from 20-22 March, that would be it. Attendees are (finally?) waking up to the heightened importance – nay, the need – of communicating the benefits of private ownership not just to regulators and governments, but to the end-users of the assets they invest in.

That need was evident from the event's get-go, when Martin Stanley, chairman of Macquarie Infrastructure and Real Assets, our opening keynote, stressed the industry needs to do a much better job of communicating the benefits of private ownership in the face of populism and the threat of nationalisation in countries like the UK.

And it was there at the end, when our conference chairman, the excellent Thomas Putter, chairman and chief executive of Ancora Finance Group, gently chided an earlier, regulation-focused panel for, as he put it, "missing the point".

"Historically, industry has always talked to government and made the case regarding balance sheet and investment benefits [of private ownership] – we never addressed the benefit to the consumer. When something goes wrong, like with Carillion [going bankrupt], that's when the man on the street gets really angry. In today's populist world, that's a real dangerous thing," he argued.

It's even more dangerous considering that many of those consumers are savvy social media users, able to generate a tweetstorm in no time. That means GPs, as one participant put it, "need to get a grip on their social responsibilities", particularly because we still live in a world where citizens regard infrastructure as a right, as Putter aptly put it.

That increased engagement, necessary as it may be, will, admittedly, not be easy. Firstly, because it will force industry to move out of its comfort zone and secondly because it has to overcome increasingly entrenched popular perceptions of general financial services villainy.

But engage the industry must, and there are good reasons to do so. The two most important are the overwhelming benefits (poorly communicated as they may be) that private ownership and management bring to the vast majority of assets and consumers; and also, as Putter highlighted, because there is a much higher level of accountability in the private versus public sector.

The latter may, again, be contrary to popular perception. Anyone who has followed the very public flogging PFI has been getting in the UK will surely not have missed the irony that its proponents have a breadth of carefully audited – though often misinterpreted – information available to them with a level of detail you would strive to find in comparable public projects.

The hardest part of this heightened consumer engagement, however, will come when the inevitable tension between financial gain and consumer loss plays out. Case in point: how investors, in some cases, might actually benefit from situations – like higher inflation – that put pressure on ordinary citizens' wallets.

"We believe that our cashflows will increase by about 80 percent of what inflation goes up. In other words, what you will earn over time will also rise with inflation," JPMorgan Asset Management's Anton Pil, managing partner for the firm's $130 billion global alternatives business, told us last year when we asked how JPMorgan's infrastructure portfolio of mostly regulated and contracted assets would fare in a high-inflation scenario.

Now try telling Joe-customer how that's also a good thing for him…

The prize, though, is worth those difficult conversations, particularly for anyone wanting to remain a presence in the asset class. As QIC Global Infrastructure co-founder Matina Papathanasiou put it to us in our February keynote interview: "We are long-term owners of privileged assets, so you need to maintain your social licence to operate and be good stewards of those assets. That's a different mindset."

Write to the author at bruno.a@peimedia.com

SCENARIO NOTE

Meeting between
Minister of Infrastructure and Communities and
Mr. Michael Sabia, CEO, Caisse de dépôt et placement du Québec (CDPQ)

Date/Time: **Location:**	Friday April 7, 2017 at 3:00-3:45 pm Minto Building, 427 Laurier Ave W. , Room 10-009
Subject:	Caisse de dépôt et placement du Québec's (CDPQ) light rail transit (REM) project and the participation of the federal government
Participants:	The Honourable Amarjeet Sohi, Minister of Infrastructure and Communities [redacted] Minister's Office [redacted] Minister's Office Mr. Glenn Campbell, Executive Director, Canada Infrastructure Bank Transition Office Mr. Michael Sabia, CEO, Caisse de dépôt et placement du Québec

Departmental Objectives
This meeting is a timely opportunity to get an update on the Réseau électrique métropolitain (REM) project proposed by the Caisse de dépôt et placement du Québec (CDPQ) [redacted]

This meeting also provides an opportunity to reinforce the Government's vision and resolve in establishing the Canada Infrastructure Bank, [redacted]

Stakeholder Objectives

It is anticipated that Mr. Sabia will seek an update with respect to potential federal funding for the REM project and will update you on recent developments related to CDPQ's transit projects.

The most recent information note from CDPQ for the REM project, which is consistent with information presented in the Province of Quebec's March 28 Budget, is attached as Annex A.

Context/Overview

Caisse de dépôt et placement du Québec (CDPQ) is a long-term institutional investor that manages funds primarily for public and parapublic pension and insurance plans. With more than $240 billion in assets, it is Canada's second largest public pension fund, behind the Canada Pension Plan Investment Board.

On June 12, 2015, the Québec National Assembly adopted Bill 38, an Act allowing CDPQ to carry out infrastructure projects. Pursuant to this legislation, CDPQ created a new, wholly-owned subsidiary, CDPQ Infra, which assumes a range of roles for infrastructure projects, including financing, construction and operations.

Under this innovative model, the Government of Québec's contribution to CDPQ infrastructure projects would be provided through equity shares to minimize the impact of the contribution on the Province's debt. The REM project is the first of its kind to be delivered under this new model.

On November 24, 2016, CDPQ officially submitted a request to the Government of Canada to fund the REM project. Following revised project information received on March 28, 2017, CDPQ Infra has forecast a project cost of approximately $6.04 billion, of which $2.67 billion in equity would be contributed by CDPQ and $1.28 billion is proposed from each of the governments of Québec and Canada. In its March 28 Budget, the Government of Québec signalled that it would invest in the project, but was still working on due diligence, along with Canada.

Infrastructure Canada, with the support of PPP Canada and external advisors, continues to work through the diligence process to assess this complex transaction. [redacted]

Points to Register

Invest in Canada – Public Transit Priorities

- I am pleased to continue our dialogue on key projects in Quebec. I understand the importance of CDPQ's public transit projects as well as its innovative approach to advancing, and financing, such large-scale projects.

- The Government of Canada understands how vital public transit infrastructure is to the entire country. This is why we have brought new and increased funding to the table.

- Specifically, on public transit, we have committed to increase investments by $6 billion over the next four years, and almost $20 billion over ten years, to shorten commute times, reduce air pollution, strengthen our communities and grow our economy.

Canada Infrastructure Bank

- Leveraging the expertise and capital of the private sector, the Canada Infrastructure Bank will transform the way infrastructure is planned, funded and delivered in Canada.
- The Bank will be responsible for investing strategically, with a focus on large, transformative projects such as regional transit plans, transportation networks and electricity grid interconnections.
- The Bank will serve as a mechanism to facilitate investment from pension funds, such as CDPQ, into Canadian infrastructure, which will provide the long-term, stable returns that are needed to meet their pension obligations to members.
- As an arm's length entity with the independence and capability to consider these proposals on commercial terms, including the same high level of due diligence and negotiation as would be expected of private sector actors, will be key to protecting the public interest.

Status of the Canada Infrastructure Bank

- The Government will soon propose legislation establishing the Canada Infrastructure Bank, and soon launch a process to identify the Bank's Chief Executive Officer and Chairperson of the Board of Directors, and is working expeditiously toward the goal of having the Bank operational in late 2017.

Réseau électrique métropolitain (REM)

- I am interested in moving forward as quickly as possible with this important project.

[redacted]

If asked about the New Champlain Bridge Corridor Project

- The Government of Canada is committed to complete the New Champlain Bridge by December 2018 and the rest of the corridor by October 2019.
- I understand that technical discussions are ongoing between CDPQ and Infrastructure Canada as CDPQ is in the planning phase of the LRT project.

Annex

CDPQ Financial Information Note regarding the REM project (March 2017)

CDPQ Infra

FINANCIAL INFORMATION NOTE

Update following the confirmation of the Government of Québec's financial commitment

March 2017

This financial information note presents an update on different components of the Réseau électrique métropolitain's financial structure, as a result of work carried out over the past few months and confirmation of the Government of Québec's investment in the project.

The estimates contained in this note will continue to evolve over the months to come, depending, among other factors, on the Government of Canada's participation in the project, the outcome of the calls for tenders and the conclusion of an agreement with the ARTM.

Once all these parameters are known, the REM's definitive financial structure, including the rate of return as validated by an external auditor, will be made public as planned.

THE REM'S SHAREHOLDING STRUCTURE

The REM's financial structure provides for investments by three shareholders: CDPQ Infra, the Government of Québec, whose commitment has been confirmed, and the Government of Canada, that was presented with an investment proposal.

The following table presents the expected equity investment of each shareholder and their ownership percentage.

REM shareholding structure

Shareholder	Equity investment	% of ownership
CDPQ Infra	$2.67 B	51.0%
Government of Québec	$1.28 B	24.5%
Government of Canada (*proposed investment*[1])	$1.28 B	24.5%

CDPQ Infra's investment

As with the REM's technical and operational features, CDPQ Infra has worked to optimize the project's financial structure. A number of factors affect an investment's risk-return profile, including its equity and/or debt components.

At this stage of the project, CDPQ Infra's investment in the REM will be only in the form of equity, for three main reasons:

1) Increased simplicity, reducing the complexity of the financial structure to be implemented;
2) Greater efficiency, increasing flexibility during the construction phase and the start of operations; and
3) A more economical solution, that reduces costs before operating revenues are generated by the project and that reduces interest rate risks.

[1] Discussions with the Government of Canada are still ongoing.

CDPQ Infra

REVENUE-SHARING MECHANISM

Return thresholds and sharing of dividends

CDPQ Infra's priority return threshold for its equity investment has been set at 8%.

The priority return threshold is the rate of return that must be achieved by the majority shareholder, CDPQ Infra, to trigger the production of returns for minority shareholders. The priority return is not necessarily the same as CDPQ Infra's anticipated rate of return for the project. An estimate of CDPQ Infra's anticipated rate of return is provided in a later section of this document.

Until CDPQ Infra's 8% priority return threshold is met, all REM project dividends are paid to CDPQ Infra. Once this threshold is met, dividends will mostly (72%) be paid to minority shareholders – the governments of Québec and Canada – until they achieve the minimum target rate of return of 3.7%, as provided by the agreement.

The targeted return of 3.7% is equivalent to the average borrowing costs of the Government of Québec's entire debt. The REM project is the first public transit project where the government will recoup its capital investment and its average borrowing cost.

Once minority shareholders have reached the targeted rate of return, dividends will be paid in accordance with ownership percentages: 51% for CDPQ Infra and 24.5% for each level of government.

Anticipated rate of return

CDPQ Infra currently estimates the REM project's rate of return to be in the range of 8.0% to 9.0%. The anticipated rate of return will depend, among other things, on the Government of Canada's participation and the outcome of the calls for tender.

This rate of return:

- is consistent with CDPQ Infra's role as project operator and developer, and the fact that it will assume construction, ridership and operating risks;
- is aligned with the return objectives of la Caisse's clients, which stand at a little over 6%;
- is comparable to the rate of return expected on unlevered infrastructure investments.

The anticipated range of return is comparable to the market for investments with a similar risk-return profile: greenfield-type projects (i.e. which include the construction phase) in which the shareholder assumes volume risks (ridership risk, for example) and that are financed without debt.

Sample rates of return for projects with a risk-return profile comparable to that of the REM, without leverage

Asset class	Rate of return without leverage	Risks
"Greenfield" highways	8.5% 10.5%	Ridership risk, construction risk (costs and delays), operating risk
"Greenfield" pipelines (regulated)	8.0% 10.5%	Construction risk (regulated), raw materials risk, counterparty/credit risk, operating risk
"Greenfield" wind farms	7.0% 9.0%	Construction risk, wind risk, volume risk (excl. PPA)
Operating railway lines	8.0% 9.0%	Price and volume risk, operating risk

REM
8% - 9%

Source: RBC and CDPQ Infra

An efficient model for a competitive cost

In all return scenarios, the REM's cost is kept between $0.69 to 0.72 per passenger-kilometer. This competitive cost is the result of ongoing project optimization, efficient project management and CDPQ Infra's choice of technology.

The REM's cost per passenger-kilometer covers both capital costs (e.g. infrastructure, including tracks and train cars), operating costs and life cycle costs. At $0.66 per passenger-kilometer, the average costs of existing networks cover operating expenses and only a portion of capital costs.

The Greater Montréal area will therefore get the equivalent of a second métro for an increase of 2 to 4% of the ARTM's budget, assuming constant ridership.

In the event that ridership forecasts are exceeded by 15% and more, the cost per passenger-kilometer will be reduced by 20%, to a range of $0.55 to 0.58. Beyond 40%, only a sum equivalent to user fees will be billed to the ARTM, with no impact on return scenarios.

PROTECTED B

SCENARIO NOTE

[redacted]

Date/Time: **Location:**	[redacted]
Subject:	[redacted]
Participants:	Government of Canada: • Kelly Gillis, Deputy Minister of Infrastructure and Communities • Michael Wernick, Clerk of the Privy Council and Secretary to the Cabinet • Paul Rochon, Deputy Minister of Finance • Timothy Sargent, Deputy Minister for International Trade • Benoît Robidoux, Associate Deputy Minister of Employment and Social Development Canada • David McGovern, Associate Deputy Minister with Innovation, Science and Economic Development Canada [redacted]

[redacted]

Page 23
is withheld
pursuant to paragraph
20(1)(b) and 20(1)(c)
of the *Access to Information Act*

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La page 23
Font l'objet d'une exception totale
conformément aux dispositions de paragraphe
20(1)(b) et 20(1)(c)
de la *loi sur l'accès à l'information*

Points to Register

Purpose and Mandate of the Canada Infrastructure Bank

- The Canada Infrastructure Bank is an arm's-length Crown corporation that will use federal support to attract private sector and institutional investment to new revenue-generating infrastructure projects that are in the public interest.

- The Bank will invest $35 billion into new infrastructure projects such as public transit systems, trade and transportation corridors, and green infrastructure projects.

- The Bank will also act as a centre of expertise on infrastructure projects in which the private sector is making a significant investment, and work with governments to collect and disseminate data to monitor and assess the state of Canadian infrastructure and better inform future infrastructure investment decisions. The Bank's work in this area will look to be complimentary to other federal data initiatives.

Investing in Greenfield Infrastructure

- The creation of the CIB presents an opportunity for the pension funds and other institutional players to invest in new Canadian infrastructure alongside governments. These funds would still need to compete with other investors for these opportunities, to ensure competitive tension and fairness.

[redacted]

- Private and institutional investors will also have the opportunity to bring forward projects under an unsolicited bids framework, although the Bank and its Board will need to define how this process will work to ensure competitive tension and fairness, while encouraging innovation in project development.

Advisory Committee

[redacted]

- The CIB is an arm's-length organization that is governed by an independent Board of Directors and will be led by a professional CEO. It will have the capacity to seek advice as appropriate to deliver on its mandate.

- Any advisory committee would need to be representative of the CIB's diverse counterparties, including smaller institutional investors, infrastructure funds, and both domestic and foreign investors.

- Openness to international investment will help create a level playing field, which will help Canadian funds in foreign markets in the long-run.

NAFTA

- We're working with American and Mexican colleagues to ensure that the CIB is well-positioned to partner with both domestic and foreign investors to deliver on its mandate.

[redacted]

Pages 26-27
are withheld
pursuant to paragraph
20(1)(b), 20(1)(c) and 21(1)(b)
of the *Access to Information Act*

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Les pages 26-27
Font l'objet d'une exception totale
conformément aux dispositions de paragraphe
20(1)(b), 20(1)(c) et 21(1)(b)
de la *loi sur l'accès à l'information*

ATIA - 20(1)(b) ATIA - 21(1)(a)
ATIA - 20(1)(c)

[redacted]

Pension plan roles in infrastructure investment

The Canada Infrastructure Bank (CIB) is a new tool that provinces, territories and municipalities will be able to use to attract private sector and institutional investment to new, revenue-generating infrastructure projects that are in the public interest. The CIB is on track to be operational by the end of 2017.

Institutional investors have expressed an interest in infrastructure assets, as these offer opportunities for stable, long-term returns. CIB project agreements will be structured in such a way that the rate of return received by project investors is commensurate with the project risks they agree to manage. These new partnerships will bring private sector efficiency and innovation to new infrastructure projects.

[redacted]

Pages 29-30
are withheld
pursuant to paragraph
20(1)(b) and 20(1)(c)
of the *Access to Information Act*

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Les pages 29-30
Font l'objet d'une exception totale
conformément aux dispositions de paragraphe
20(1)(b) et 20(1)(c)
de la *loi sur l'accès à l'information*

Canada Pension Plan says it's losing out on infrastructure deals (May 18, 2017)

TORONTO, May 18 (Reuters) - The Canada Pension Plan Investment Board (CPPIB), one of the world's biggest infrastructure investors, is regularly losing out in bidding wars for such assets, its chief executive said, as investors seek alternatives to low-yielding government bonds.

The CPPIB is one of the world's biggest investors in infrastructure such as roads, bridges and tunnels but its CEO Mark Machin said high valuations were making it harder to do deals in the current environment.

"We are consistently outbid for assets around the world because they are really priced almost to perfection and there's an enormous amount of capital chasing infrastructure, particularly in developed markets," Machin told reporters after the fund reported results for its last fiscal year on Thursday.

The CPPIB did acquire a 33 percent stake in Pacific National, one of the largest providers of rail freight services in Australia, for about A$1.7 billion ($1.3 billion) last year but was generally less active in the infrastructure space than it has been in previous years.

Machin said there could be opportunities in the United States if U.S. President Donald Trump proceeds with a $1 trillion infrastructure plan.

"If the U.S. comes on stream that would be really interesting because it's such a massive market. There are pools of capital that are getting ready to invest in it. If policy (makers) in the U.S. got their act together that would produce a good home for a lot of capital looking for that type of opportunity," he said.

The fund, which manages Canada's national pension fund and invests on behalf of 20 million Canadians, reported a net return of 11.8 percent on its investments last year, helped by its strategy of diversifying across asset classes and geographies.

The performance represented a significant improvement on the year before, when the fund achieved a net return of 3.4 percent.

The CPPIB said it ended its fiscal year on March 31 with net assets of C$316.7 billion ($232.2 billion), compared with C$278.9 billion a year ago, one of the largest yearly increases in assets since it was created 20 years ago.